

QUESTIONS AND ANSWERS

PLEASE REFER TO THE GENERAL FAQs SECTION OF ARPA-E'S WEBSITE ([HTTP://ARPA-E.ENERGY.GOV/?Q=FAQ/GENERAL-QUESTIONS](http://arpa-e.energy.gov/?Q=FAQ/GENERAL-QUESTIONS)) FOR ANSWERS TO MANY GENERAL QUESTIONS ABOUT ARPA-E AND ARPA-E'S FUNDING OPPORTUNITY ANNOUNCEMENTS. ADDITIONAL QUESTIONS SPECIFIC TO THIS FOA ONLY ARE INCLUDED BELOW. PLEASE REVIEW ALL EXISTING GENERAL FAQs AND FOA-SPECIFIC QUESTIONS BEFORE SUBMITTING NEW QUESTIONS TO ARPA-E.

I. Full Application Phase Questions:

Q1. I would like to know if [redacted] is an acceptable crop for this FOA. We have worked with landowners over the years to develop commercial scale fields of this crop and there is an ethanol plant nearby that wants to use sugars from biomass to generate ethanol. Would this be an acceptable combination for this FOA, assuming that we meet the other criteria listed as well?

ANSWER: Refer to General FAQ 6.19 and the Site Requirements text set forth at Section XVI, Appendix H, Part 2.A, which states in pertinent part -- *ARPA-E is specifically interested in field sites for biofuel feedstock production that are: (1) Directly marketing to biofuel producers ...*

Q2. What is the deadline? We are confused because the FOA at <https://arpa-e-foa.energy.gov/Default.aspx> for DE-FOA-0001953, states "FA Deadline is 9:30 AM ET, November 18, 2019" for Appendix H, and "Full Application Submission Deadline: 12/19/2019 5:00 PM ET" for the entire topic.

ANSWER: DE-FOA-0001953 utilizes a process of Targeted topics for Full Application Submissions. The Targeted Topics Table in the Funding Opportunity Announcement lists topic-specific application due dates. The deadline to submit full applications to DE-FOA-0001953, Topic H, is 9:30 AM Eastern Time, November 18, 2019.

Q3. A group of us are planning on submitting a proposal in response to this call and have a number of questions.

We would greatly appreciate if you could provide us with responses to the following questions:

- 1. Do you have any guidance on how data should be made available or shared and the desired latency**
- 2. For instance, among other avenues, would it be possible to register the sites with AmeriFlux eventually for sharing at least the ecosystem flux data.**
- 3. The GREET model is mentioned in this call. Is there an expectation that modelers would use GREET as part of this project.**
- 4. Are individual teams expected to include multiple crop species?**
- 5. Are proposals encompassing sites in different states encouraged or is the expectation that different institutions from different regions will be selected as independent validation sites?**

ANSWER:

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1. There is no guidance at this time. The expectation is that a data plan will be proposed as part of the milestones.
2. This would be an acceptable data platform to involve.
3. Data collected by the teams will be used for the purposes of quantifying carbon intensity. The focus of this solicitation is on data collection; a specific LCA modeling approach is not required.
4. No.
5. Applications with sites in different states/regions and environmental conditions are encouraged but not required.

Q4. Regarding the FOA-1953/4 we have a few questions for clarification:

1. Is the bioenergy feedstock crop to be a purpose grown energy crop (such as sorghum) or is a crop residue equally eligible (such as corn stover, or straw)?
2. Is the focus on existing operating plants in the US for a biofuel production (i.e. corn stover to cellulosic ethanol) or any conceptual plant, that may have large scale demonstration in other countries (such as a straw to biogas conversion process)?
3. Does the biofuel/biogas operation need to be at full scale or is permissible to be at scale sized to the site acreage, or is it not even necessary to have?
4. Is the biofuel/biogas process part of the proposal, ie a plant for that or is that assumed to exist (in reality or in abstract)?
5. Proposed pathway we consider is rice straw conversion via anaerobic digestion to biogas, a D3 RIN and negative CI feedstock.
 - a. Alternative pathway we consider is energy sorghum to biogas or ethanol or corn to ethanol.
 - b. Is there any specific encouragement or discouragement/intention?
6. The sampling guideline is talking about 3-5 samples from soil and plant per acre, and at other locations it talks about 85 acre minimum site. Does this imply 3-5 samples times 85 acre as minimum samples per year per site or is a subset of samples sufficient?
7. Metagenomics of the soil is critical to understand the biological processes in the soil, can that be covered as eligible expense?

ANSWER:

1. Refer to General FAQ 6.19 and the Site Requirements text set forth at Section XVI, Appendix H, Part 2.A, which states in pertinent part -- ARPA-E is specifically interested in field sites for biofuel feedstock production that are: (1) Directly marketing to biofuel producers ...
2. Refer to General FAQ 6.19 and the Site Requirements text set forth at Section XVI, Appendix H, Part 2.A, which states in pertinent part -- ARPA-E is specifically interested in field sites for biofuel feedstock production that are: (1) Directly marketing to biofuel producers ...

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3. Refer to General FAQ 6.19 and the Site Requirements text set forth at Section XVI, Appendix H, Part 2.A, which states in pertinent part -- ARPA-E is specifically interested in field sites for biofuel feedstock production that are: (1) Directly marketing to biofuel producers ...
4. Please refer to Section A. Technical Areas of Interest and Performance Targets, specifically, the bullet points listed after, "A submission to this Targeted Topic must include an applicable commercial field site (described in more detail below) and describe the Applicant's ability to:..."
5. Refer to General FAQ 6.19 and the Site Requirements text set forth at Section XVI, Appendix H, Part 2.A, which states in pertinent part -- ARPA-E is specifically interested in field sites for biofuel feedstock production that are: (1) Directly marketing to biofuel producers ...
6. Yes, 3-5 samples times 85 acre is the minimum number of samples per year per.
7. The solicitation is open to all approaches that can meet the data requirements listed in Section A, Technical Areas of Interest & Performance Targets, ("Data Requirements").

Q5. [We are] preparing a proposal for the [this Targeted Topic]. We have the following questions

Q5.1a Is this proposal asking for only providing golden validation sites and collecting required data sets, and/or also including at developing new sensing technologies?

ANSWER: Refer to Section XVI, Appendix H, Part 3, *Areas Specifically Not of Interest* – specifically, "Monitoring approaches that solely, or heavily, rely on novel and unproven sensing techniques."

Q5.1b Is "Technology to Market" a reasonable request for a ground-truth experiment like this solicitation?

ANSWER: Work focusing on making datasets accessible, interoperable, and reusable are examples of pertinent Technology to Market activities.

Q5.2a Do we need to have three 85 acre field of each crop, or would three 85 acre fields of corn and one 85 acre field of bioenergy sorghum work?

ANSWER: Applicants may incorporate sites with different feedstock crops.

Q5.2b Besides three or four 85-acre commercial sites, will adding one or two smaller but heavily instrumented experiment sites add value to our proposal?

ANSWER: Additional, smaller sites will not be funded. Applications will be evaluated using the criteria set forth at FOA Section V.A.

Q5.2c Can all of the fields be in the same geographical location but with different managements?

ANSWER: Applications with sites in different states/regions and environmental conditions are not required. ARPA-E may consider geographic diversity in its selection process (refer to FOA Section V.B.1.I).

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Q5.2d While the call is for bioenergy crops, any annual crop in the Midwest (corn, bioenergy sorghum) will be grown in a rotation with something like Soybean (a biodiesel crop, but less of a biofuel than corn or sorghum). Will this be an issue if we design our site experiment as the standard corn-soy rotation?

ANSWER: Corn-soy rotations are acceptable.

Q5.3 Besides those biophysical and biogeochemical variables listed in the solicitation, do we need to add some variables related with LCA?

ANSWER: The variables listed Section XVI, Appendix H, Part A, *Technical Areas of Interest & Performance Targets*, (“Data Requirements”), are intended to feed into the feedstock production LCA. Additional variables may be proposed.

Q5.4 [W]hat are the evaluation and ranking criteria for a successful proposal?

ANSWER: The merit review criteria are set forth at FOA Section V.A. Program Policy Factors that ARPA-E may consider in selecting applications for award negotiations can be found at FOA Section V.B.1.

Q6. We have the following questions regarding to Topic H of DOE FOA 0001953:

Q6.1 For the letter of commitment for field lease. Our assumption is that we need to have the farmer showing their support, but no actual lease is required. Please kindly confirm. ...

ANSWER: The required letter of support for leasing or any other form of contract or agreement setting forth terms for the use or access to land for cultivating biofuel feedstock (refer to Section XVI, Appendix H, Part 2.A) does not require submission of the actual lease or other contractual documents.

Q6.2 In regards to [Q6.1]: we assume that we can budget to cover the land usage of the farmer or provide minimal guaranteed income at a certain level for the participating farmer.

ANSWER: Cost principles applicable to any agreement resulting from this FOA are set forth at FAR Subpart 31.2 for commercial entities, and 2 C.F.R. Part 200, Subpart E for academic and non-profit entities. Each of these includes principles addressing allowable rental costs for real property. Refer to FAR 31.205-36 and 2 C.F.R. § 200.465 respectively.

Q6.3 With regards to the type of biofuel, most of the biofuel production is 1st generation corn-based ethanol. Does ARPA e have any preference over 1st generation, 1.5 generation or 2nd generation biofuel field production site? If we include sites for all three types, would it be an advantage? For some sites, both 1st and 2nd gen biofuel were involved, can we integrate both data?

ANSWER: Refer to General FAQ 6.19 and the Site Requirements text set forth at Section XVI, Appendix H, Part 2.A, which states in pertinent part -- *ARPA-E is specifically interested in field sites for biofuel feedstock production that are: (1) Directly marketing to biofuel producers ...*

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Q6.4 Interestingly, in the response sheet, it shows SBIR/STTR Topic H, but in the FOA, there is no mentioning of SBIR/STTR. We assume that is a mistake. The FOA is a regular call, not SBIR or STTR. Please confirm.

ANSWER: Refer to DE-FOA-0001954, Appendix H for the corresponding SBIR/STTR topic.

Q7. May a senior researcher participate as a Co-PI in more than one proposal submitted to this [FOA]? ...

ANSWER: Yes.

Q8. Would you please provide guidance related to submission of letters of commitment from farmers/owners of field sites? Are they required, and how and where might they be included in the proposal package?

ANSWER: Refer to FAQ 6.1 above for additional information about the necessary letter. A letter of support must be included in the Technical Volume, and will count towards the maximum page limitation. If applicants exceed the maximum page limitation for the Technical Volume, ARPA-E will only review the authorized number of pages, starting with the first page and disregard any additional pages exceeding the limit.